

## **Preservation and Strengthening of the Health of the Librarian in Modern Conditions**

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A combination of features of library labor: the need to quickly and clearly think, analyze and make decisions; communicate with different people, manage an excess of textual information; as well as the instability of the pace and rhythm of work, and the high degree of physical activity poses a number of threats to work and health. The use of modern equipment leads not only to a change in the functional duties of workers, but also to the emergence of sources of danger. And as a result of constant communication with users demonstrating the whole spectrum of psych-emotional states – the threat of stress. New forms of activity affect the psychology and consciousness of people ultimately, changing them. The main goal of labor protection of a librarian is to save the life and health of the librarian in the process of his professional activity.

The purpose of this article is to describe the factors impacting on the working environment and health of librarians as well as normative documents that aim to protect librarians. The article presents the results of the study on the basis of an analysis of the negative factors of the working environment, the author's own experience, and the study of literature on the factors that cause occupational diseases and discomfort among library workers. Methods of preventing stress and occupational diseases among librarians are also suggested.

### **Development / Methodology / Approach**

The state of health of the library staff was analyzed based on a survey questionnaire.

### **The received data**

Based on the experience of libraries in the field of occupational safety, it can be argued that, no matter how well work activities are organized to ensure the safety of production and work, the real level of safety can be assessed only taking into account the opinions of people directly working in production. These are the people in daily contact with hazards, and who notice gaps and "weak spots" in maintaining, a safe work environment.

### **Limitations / consequences of research**

Studies have shown that it is necessary to develop recommendations aimed at preventing occupational diseases of the librarian, strengthening librarians' ability

to resist such diseases, creating a healthy lifestyle, as well as optimizing work processes in the library in order to avoid overstretching and emotional stress of employees.

## **Originality / value**

There has been little scientific study of the professional health of a modern librarian.

*Keywords:* labor protection, librarian health, librarian, safe work, safety protection, work place, ergonomics

## **Introduction**

A librarian is a keeper of books. He understands how they are classified, their bibliographic description, the rules for the compilation of bibliographic indexes and the rules for setting up the stock. He knows that over time books become dilapidated, worn out, and he knows how to repair them. He is taking care for every book from the library's stock. The librarian is well versed in modern information technologies: computers, copiers, scanners, printers, modems, and so on. The librarian should have great creative potential, a broad professional horizon, he must have the skills of scientific research and a high cultural level. As new technologies conquer the library space, so librarians have to constantly retrain, improve their skills, and master unknown approaches and techniques. However, few librarians think of the need for health to meet all these requirements of their modern working life. But health is the most important state of man, the basis of his life, material well-being, work activity, creative success and longevity. Human health is a "visiting card" of the country, reflects the level of its life and sanitary well-being, directly affects the productivity of labor, the economy, defense capacity, the moral climate in society, and the mood of people. Today, libraries have sufficient information resources to promote healthy lifestyles and correctly use them. The provision of a healthy lifestyle is possible only if a person wants to be healthy. And the problem of forming a healthy lifestyle, especially for young people, is one of the most urgent demands placed on library services. It has become fashionable and prestigious to be healthy. The work of the library in this direction includes activities that actively promote a healthy lifestyle, promote the organization of leisure for young people, attract to reading, and acquaint them with interesting people and their hobbies. (Solodilova, n.d.).

Librarians actively conduct activities that promote a healthy lifestyle and at the same time do not think about their professional health and the impact of harmful working conditions on their health. I became interested in the topic of labor protection and health of the librarian several years ago when we created the "Health Library" project and applied for an IFLA competition in 2014, which we did not win. But my interest in the topic remained. Many books, journal articles, monographs,

normative legal acts have been examined and many conclusions have been made. L. E. Savich defines the concept of “professional health” as a system that can be described by its integral characteristics through a set of parameters that include not only the body’s ability to preserve and activate compensatory, protective, and regulatory mechanisms that ensure the efficiency, effectiveness and development of the personality in any conditions of professional activity, but, first of all, the level of well-being in the spiritual, psychological sphere, on which depends the mood needed for effective work. (Savich, 2011). Every day the health and life of a librarian is potentially endangered: paper, atmospheric dust, evaporation of printing ink, book glue, all this can cause specific diseases in librarians. Certain diseases cause diseases of the library stock itself, arising over time and caused by specific bacteria, insects, molds, and so on (Tereshin, 2005). Since I work as a cataloguer, it is probably best to discuss the effect of harmful working conditions on the health of the cataloguer. Many people believe that the health of cataloguers does not affect the professional environment. But the work of people in this sphere is fraught with dangers. These include: damage from copying equipment; a large concentration of airborne dust, and frequent inconsistencies in the conditions of temperature, light and humidity. Cataloguers also inhale much dust, saturated with spores, which also affects health. The work of cataloguers is sedentary. Deficiency of motor activity leads to diseases of joints (osteochondrosis). As the answers to the survey showed, between workers of our library, 30% believe that the computer does not have any harmful effect on health. Let me disagree with them. The main dangerous and harmful production factors affecting a person when working with a personal computer are:

- increased level of electromagnetic radiation,
- increased level of ionizing radiation,
- increased level of static electricity,
- increased intensity of the electrostatic field,
- increased or decreased ionization of the air,
- increased brightness of light,
- direct and reflected glitter,
- increased value of voltage in the electrical circuit, the closure of which can occur through the human body,
- static overloads of the musculoskeletal system and dynamic local overload of the muscles of the hands,
- overstrain of the eyes,
- mental strain,
- emotional overload,
- job monotony.

According to the Sanitary Rules and Norms (SanPiN), the area per workstation for users of PCs and VTs using a cathode-ray tube (hereinafter – CRT) as the output device is at least 6 square meters (hereinafter – m<sup>2</sup>) in a single arrangement, with a central and perimeter location – 4 m<sup>2</sup> when using VT on the basis of flat discrete screens (liquid crystal, plasma) at any location – 4 m<sup>2</sup>. (“Sanitary and epidemiological requirements to working conditions with sources of physical factors (computers and video terminals) that affect human beings”, 2015). Work with personal computers refers to visually intense work. This means that first of all when working with a computer our eyes suffer. It is important to understand that the harmful effect on the eyes is not manifested in the presence of any radiation, but only in the need for constant eye strain when reading information from the screen. In order to prevent negative impacts, it is necessary to observe a certain mode of work and rest. The duration of direct work with VT and PC, PCs and laptops, according to SanPiN, is recommended to be no more than two hours. During the period of work, preventive measures should be carried out: eye exercises every 20–25 minutes and after 45 minutes of working hours, a workout is held. . Before starting to work, *windows should be opened to let fresh air in*. Visual fatigue is also greatly influenced by the level of illumination of the workplace. This is especially noticeable when it is necessary to work simultaneously with electronic and paper documents. According to SanPiN, the level of illumination of the workplace when working at a computer should be 300–500 lux. In this case, the monitor and the light sources should be positioned in such a way as not to create glare on the screen surface.

The main reasons for the deterioration of working capacity when working at a computer are:

- 1) Prolonged hypodynamia. Bent elbows, knees, neck and hands together with an unsupported loin and neck lead to disruption of the circulatory cycle, muscle tension and, consequently, slowly but surely, lead to the development of chronic diseases. The most common of these are osteochondrosis of the spine, carpal tunnel syndrome, and rheumatic diseases.
- 2) Discomfort in the eye area, burning, blurring vision, headache, pain when moving the eyes.
- 3) Long repeating monotonous movements. It is harmful not only because of the fatigue of the muscle groups that these movements create, but also the psychological fixation on them (the formation of stable centers of CNS excitation with compensatory inhibition of other centers).
- 4) Light, electromagnetic and other radiation (mainly from the monitor).
- 5) Long stays in a closed or stuffy room.

The next danger that awaits us in the workplace is the static posture when working at the computer.

Static tense posture with prolonged work on the computer can lead to inflammation of the muscles, ligaments and tendons of the back and legs, diseases of the spine and joints (osteochondrosis, tendonitis, among others). The constant tension of the hands lead to injuries of the wrist and tendons, the so-called "mouse bite" (carpal tunnel syndrome), the cause of which are small, monotonous movements of the hand when you press the "mouse" keys, leading to internal microtrauma. Musculoskeletal diseases, which affect more than 40% of all workers, are the result of poor ergonomic conditions.

These diseases are caused by the so-called traumas of repeated loads and represent gradually accumulating ailments caused by prolonged repetitive effects and flowing into diseases of nerves, muscles and tendons. The influence of this harmful factor is reduced with the correct organization of the workplace – optimally matched furniture and the correct placement of computer elements. The approach to the optimal organization of the workplace is quite individual. But do not forget that the problem of repeated load injuries is actually very serious, and in industrialized countries such diseases account for more than half of the total number of occupational diseases.

Workplace of the cataloguer. How should it set up? Consider in more detail the organization of the workplace of the cataloguer using a computer. The work of the cataloger involves large visual loads in combination with small motor activity, monotony of the operations performed, and a forced working posture. These factors negatively affect the well-being of the worker. The ideal workplace is a workplace that meets certain ergonomic and technical requirements, ensures maximum comfort of working conditions at the computer, and helps to maintain efficiency and well-being during the day (Razmeshchenie rabochikhmest, 2018) More and more often in our life we hear the words "ergonomics". What is ergonomics and what is it for in a modern library? Here we need to discuss a little about the ergonomics of the workplace. Ergonomics is a science that studies the problems that arise in the "man-technology-environment", with the purpose of optimizing the labor activity of a person, creating comfortable and safe working conditions for him, increasing his productivity, maintaining health and working capacity. Ergonomics studies the interaction of man and technology not only in the sphere of production, but also in the spheres of leisure and everyday life. One of the main directions of ergonomics is associated with a change in the mentality of engineers and designers, who are called upon to focus not on their own ideas about the physical and mental characteristics of a person, but on the exact knowledge of how a person sees, hears, thinks how far he can reach out, how much he can bend, how will a certain level of vibration affect his visual perception, and emotional reactions. (Shulga, 2004).

A correctly organized employee's workplace (in terms of ergonomics) affects an increase in labor productivity throughout the whole working day by an average of 15–25%. Continued sedentary work is harmful to man in principle: you stoop or move forward, and your spine deforms, injuring the disks; you lift your shoulders and bend your arms, keeping them in suspense – and of course, they begin to ache. To relieve the load from the muscles of the shoulder girdle, there is a stand that lifts the monitor above the table surface or a special desk mount. Specialists in the field of ergonomics believe that for most people, a comfortable workplace is one that can be adapted for at least two positions, while the position of the chair, display, keyboard, and mouse must match the work performed. For an ideal workplace you need:

- a monitor that meets international requirements for its visual characteristics, with adjustable brightness and contrast and with a special stand – for installing the monitor screen at the desired angle of inclination;
- protective filter – for monitors not certificated as producing of low radiation;
- adjustable table for the computer, allowing to change the height of the keyboard;
- keyboard;
- adjustable armchair;
- footrest – if the design of the table and chairs does not allow you to adjust them in height;
- a sufficiently long cable for the keyboard to place it in a convenient position;
- the document holder. If you often have to look at documents while working, you can set the stand with the document original vertically in the same plane with the screen and at the same height. Eye-to-side operation is preferable to the top down from the screen to the horizontal copy, and then back to the screen. If you need to look more often at the original than on the screen, then it is necessary to rotate the chair or screen in such a way that the original, rather than the computer screen, is located directly in front of the operator.

The location of the material should be periodically changed, placing it on the left, then to the right of the screen. Moving back and forth, from left to right from the screen to the copies, reduces the risk of visual stress and improves the visual characteristics of the eyes.

To all who are interested in the problem of rational organization of the workplace, I recommend that you familiarize yourself in detail with SanPiN, which regulates a large number of parameters when working with personal computers.

Also, the efficiency of cataloguers is affected by such things as temperature and humidity in the workplace. After a series of studies it was found that at a temperature of 25°C the number of errors was only 10%. As soon as the temperature dropped to 20°C, the printing speed was reduced almost twofold, and the number of errors increased to 25%. The climate control system should not only maintain the temperature and humidity of the air at a given level, but also ensure the flow of fresh air, cleaning it of street dust and soot. (Ergonomika- zalog uspekha, 2011).

The basic principles of ergonomic workplace organization are comfort and minimization of loads. (Mayorov, 2018). Unfortunately, cataloguers are mostly sedentary. A large number of employees sit inappropriately, that is, without any contact with the backrest, with bent legs or without the opportunity to conveniently put your feet on the floor. On an ordinary chair, without harm to health, you can spend no more than 15 minutes a day. Due to the lack of a comfortable seat, discomfort due to a long immobile position eventually develops into more serious diseases. Among the most frequent complaints can be identified:

- 1) headaches and problems with concentration;
- 2) pain in the neck and shoulders;
- 3) pain in the back and spine;
- 4) pain in the coccyx;
- 5) pain in the thigh;
- 6) pain in the knee and calf muscle;

About 90% of the working time of cataloguers is spend sitting at the desk. This statistic in itself looks harmless, but if you take into account that the sitting position increases the pressure in the lower back five times more than standing, the conclusion is very disturbing. In order to reduce the risk to zero, the seat should be equipped with armrests, have a maximum depth of planting and does not pinch arteries under the knees. The elastic back of the anatomical form reduces the burden on the spine. As a result, the design evenly supports the body over the entire area of its contact with the chair.

Bad posture leads to:

- 1) reduced volume of the lungs, which leads to a reduction of respiratory function;
- 2) reduced flow of blood and oxygen to the brain and tissues;
- 3) disruption of the bowel and improper digestion;
- 4) ossification of the ligaments and the appearance of painful sensations;

- 5) chronic tension in the muscles;
- 6) premature aging of body tissues;
- 7) reduces the stability of the spine, which leads to curvatures;
- 8) increased fatigue due to the systematic overstrain of muscles;
- 9) decrease in the liveliness of thinking, speed of reaction and efficiency;
- 10) pain in the back, head and muscles;
- 11) drowsiness and poor concentration. (Nepravil'naya osanka: prichiny i posledstviya, 2018).

If your legs do not reach the floor or you are in the same position for a long time, the outflow of blood in the legs becomes more difficult, which can lead to thrombophlebitis. The feet should stand most of the time on the floor. For the leg this is the healthiest position.

These problems can be solved by the footrest. The work chair should be considered as an integral part of the workplace of the cataloguer. Other components of the workplace, such as a table and a computer, allow you to balance work. Together with the chair, they make it possible to create conditions under which the position of the body of the employee will be in a balanced state with respect to the environment. (Metody povysheniya proizvoditel'nosti truda i okhrana truda sotrudnikov, rabotayushchikh v ofise, nd.)

What kind of working chair does not harm the health of the cataloguer? My own working chair is adapted to my anthropometric indicators, that is, adjusted taking into account the size of my body, physiological abilities, and everyday safety requirements.

An ergonomic keyboard and mouse will reduce the burden on the hands, shoulders and spine, eliminate fatigue and increase work efficiency. Undesirable noises, and, consequently, noisy conditions in workrooms are perceived as an element of tension, and consequently, affect the productivity of employees. One of the problems is that many people perceive unnecessary noise as mere annoyance and not as a serious danger to health (Gakayev, 2015).

Dispersing attention, noise significantly affects the ability to work and the productivity of labor. The effect of noise on the performance of mental operations is especially strong. A perceptible noise reduces the efficiency of mental work by more than 1.5 times, and for people engaged in manual labor, by almost 1/3. At the same time, information obtained with noticeable noise pollution cannot be stored for a long time in memory or can be stored only in the passive (recognizable in the text), and not in the active version. Noise dissipates the attention of a person, prevents him from concentrating on the main thing, and complicates the making of



decisions. It leads to a disorder in the activity of the heart, liver, and the exhaustion and overstrain of the nerve cells. Weakened cells of the nervous system cannot properly coordinate the work of various body systems. (Gakayev, 2015).

Each of us sometimes finds ourselves in a situation where a colleague loudly speaks on the phone, not allowing us to concentrate. To ensure that every minute of working time is used productively, the first and most important rule is to create comfortable conditions for both the speaker and the person who at this time is concentrated on the performance of his work. The use of partitions in the workplace creates comfortable conditions for all employees of the office, but also ensures the privacy of each workplace. Correctly organized jobs, from the point of view of ergonomics, have a decisive influence on the efficiency of any employee and collective, and also can increase labor productivity up to 30%. (Metody povysheniya proizvoditel'nosti truda i okhrana truda sotrudnikov, rabotayushchikh v ofise, n.d.) I want to say that the ergonomic culture in the advanced foreign countries is in contrast to our country, at a higher level. Without the service of ergonomic support, there is no one functioning in the company. There is no need to emphasize that one of the main elements of quality management systems is the ergonomic system with all its attributes. What provides a comfortable and cozy workplace? Behind this comfortable workplace you do not feel fatigued. It helps to maintain your health. And with pleasure you return to your workplace day in and day out. It "tells" its owner that it is valued, creating a healthy psychological environment; He is trusted and puts great hopes on him, that they take care of him. Feeling this, a person wants to take care of his library in return.

We ourselves must take care of our health and workout will help us in this. Chair exercises is an excellent tool against fatigue, visual impairment, back problems, hemorrhoids, disorders of the reproductive system and other diseases caused by a sedentary lifestyle. (Metody povysheniya proizvoditel'nosti truda i okhrana truda sotrudnikov, rabotayushchikh v ofise, n.d.). Simple exercises will help to improve overall well-being, increase efficiency – encourage the body and mind. Exercises can be done once a day – you in your work schedule take 15–20 minutes. You can just sit at the computer to rest your legs under the table. From the room everyone came out – to rise and make a few inclines and squats. In our library, daily exercise is performed. I want to say that it is not that the gymnastics will cure all our diseases, it's just a change of scenery, and we'll see our colleagues, because sometimes we do not see each other when working in different offices. And while you will go down from the third floor to the first one, you will do a good job unloading your tired legs.

To study the state of health of librarians, an anonymous survey was conducted with a specially developed questionnaire. Thirty respondents participated in the survey. In general, 45% of respondents rated their health as "good", 14% – "excellent", 38% – "satisfactory", 3% – "bad." On the question of the questionnaire "Which

areas of work in the field of labor protection are most relevant (choose no more than two areas), the majority of respondents noted “improving working conditions in order to reduce occupational morbidity, raising the level of competence of workers in the field of labor protection.” According to the results of the survey, the overwhelming majority – 98% of respondents, consider our profession to be associated with harmful working conditions. A significant part of the respondents noted among the harmful factors existing in the workplace: heavy lifting (transfer of books during the movement of the library stock, during repairs, and so on.), noise, lack of lighting, stress, dust, harmful emissions. Librarians were invited to increase the level of safe working conditions in addition to organizing common measures for safety and labor protection, as well as to increase their information on the health and safety of librarians. Within the framework of one article, it is impossible to name all threats to the professional health of the librarian, but also actions are needed to prevent them, and to protect the labor of the librarian.

When I was starting to write this article, I wanted to touch upon the labor protection issues of librarians, but in the course of working on it, it became clear that the subject of labor protection for librarians should be devoted to a separate article.

Good working conditions can create social protection and status, as well as opportunities for personal development. They also help improve social attitudes and self-esteem of workers and have a positive impact on health. Health risks in the workplace, such as high or low temperature, noise, dust, unsafe equipment and stress, cause occupational diseases that can exacerbate other health problems. There are effective measures to prevent occupational diseases: ventilation, noise control, furniture optimization and work organization, shaping the need for healthy lifestyles, organizing active recreation, creating a favorable climate in the team, equipping recreation rooms. The task of OSH services is to assess these risks and to make recommendations for the prevention of occupational diseases. The certification of workplaces will help to identify harmful and (or) dangerous production factors and to implement measures to bring the working conditions in line with the state regulatory requirements for labor protection.

## References

- Amlinskiy, L.Z. (2013). Nauchnaya biblioteka: prostranstvo dlya chitatelya i bibliotekarya, Nauchnye i tekhnicheskie biblioteki, 1, 100–107
- Ergonomika- zalog uspekha. (2011). Retrieved from <http://office.paininfo.ru/style>
- Gakaev, D. A. (2015) Vliyanie shuma i infrazvukov na organizm cheloveka. Molodoy uchenyy, 15, 261–264. Retrieved from <https://moluch.ru/archive/95/21473/>.

- Metody povysheniya proizvoditel'nosti truda i okhrana truda sotrudnikov, rabotayushchikh v ofise. (n.d.). Retrieved from <http://www.sintex-mebel.ru/files/office.pdf/>
- Mayorov, A. (2018). Ergonomika rabocheho mestai planirovanie ofisnogo prostranstva. Retrieved from <http://www.vashdom.ru/articles/peregorodka-2.htm>
- Nepravil'naya osanka: prichiny i posledstviya. (2018). Retrieved from <http://belkon.ru/content/view/680/36/>
- Okhrana truda – obuchenie i pomoshch. Retrieved from <http://ochranatruda.blogspot.com/2017/11/blog-post.html>
- Pravila ergonomiki rabocheho mest. Retrieved from <http://www.sintex-mebel.ru/office/articles/ergonomics-rules>
- Razmeshchenie rabochikhmest. (2018). Retrieved from [http://studbooks.net/1413745/bzhd/razmeschenie\\_rabochih\\_met](http://studbooks.net/1413745/bzhd/razmeschenie_rabochih_met)
- Ryndevich I. Tekhnika bezopasnosti v ofise. Retrieved from <http://www.znakcomplect.ru/novosti/example/index.php?id=470>
- Sanitarno-epidemiologicheskie trebovaniya k usloviyam raboty s istochnikami fizicheskikh faktorov (komp'yutery i videoterminaly), okazyvayushchikh vozdeystvie na cheloveka (2015) // Prikaz Ministra natsional'noy ekonomiki Respubliki Kazakhstan, 38
- Savich, L.E. (2011). Zdorov'e bibliotechnogo spetsialista: problema nuzhdaetsya v issledovanii // Bibliosfera, 2, 85–90
- Solodilova, S.N. (n.d.). Rabota biblioteki po propagande zdorovogo obraza zhizni. Retrieved from [http://www.rlib.yar.ru/\\_metod\\_mater/v\\_11/03/solodilova.htm](http://www.rlib.yar.ru/_metod_mater/v_11/03/solodilova.htm)
- Tereshin, V. O. (2005). bibliotechnoy gigiene i ekologii // Bibliotechnoe delo, 7, 13
- Shashlov S. Ergonomika raboty za komp'yuterom- sub"ektivnye zametki, v..3 release. Retrieved from <https://www.ixbt.com/peripheral/ergonomic.html>
- Shulga, O. R. (2004). Ergonomicheskie i klimaticheskie rezhimy v bibliotekakh. Retrieved from: //Informatsionnyy byulleten', 1, 40–44
- Zaryadka v ofise. Retrieved from <http://www.sintex-mebel.ru/office/articles/charging>